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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/591,185	06/08/2000	Ronald M. Cook	061873-5002US	2668

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EXAMINER

EPFS FORD, JANET L

ART UNIT	PAPER NUMBER
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1635

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/591,185

Applicant(s)

COOK, RONALD M.

Examiner

Janet L. Epps-Ford, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 32-62 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 32-62 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted element is related to the statement by Applicants, in the response filed 8-01-2003, page 17, 3rd paragraph, wherein it was stated that the stabilizing moieties, X and Y as recited in claim 32, and CHOL in claims 50 and 57, only function to bring the molecular energy transfer donor and acceptor into operative proximity when the overall modified nucleic acid compound is not hybridized to another nucleic acid sequence. Therefore, the function of the X and Y moieties is dependent upon the condition that the claimed compound is not hybridized. The requirement that the compound is not hybridized appears to be critical to the function of the compound, since according to Applicants, the stabilizing moieties do not interact when the compound is hybridized, resulting in the donor and acceptor moving out of operative contact.
4. Claims 43 and 62 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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5. Claim 43 recites wherein R2-X and R3-Y are independently attached to members selected from the group consisting of a natural base of said nucleic acid chain, a modified base of said nucleic acid chain, a 3'-hydroxyl of said nucleic acid chain, a 5'-hydroxyl of said nucleic acid chain, a 2'-hydroxyl of said nucleic acid chain, and a linkage joining nucleic acid groups in said nucleic acid chain. It is noted that the NA moiety recited in the compound of claim 32 is defined as a nucleic acid chain, however the R2-X and R3-Y groups are not attached directly to the NA portion of the compound, they are indirectly linked to the NA group, or said nucleic acid chain, via phosphodiester groups. Applicant's use of the term "said nucleic acid chain," in claim 43 is vague and indefinite since the R2-X and R3-Y groups are not attached to "said nucleic acid chain."

1. Claim 62 recites "wherein Nu1 and Nu2 are nucleotides having an exocyclic amine group to which -R5-D and -R6-Q are attached respectively." This phrase is vague and indefinite since the compound recited in claim 57 comprises wherein Nu1 and Nu2 are not directly linked to either -R5-D and -R6-Q, they are indirectly linked via an NH group attached to Nu1 and Nu2. Therefore it is unclear if the NH group recited in the compound of claim 57 corresponds to the exocyclic amine group recited in claim 62, or the NH group represents an additional amino group that is further attached to the exocyclic amine group of Nu1 and Nu2 recited in claim 62.

Drawings

6. Applicants were previously informed of the drawing informalities stated in the Notice of Draftsperson's Patent Drawing Review mailed to Applicants 2/07/02.

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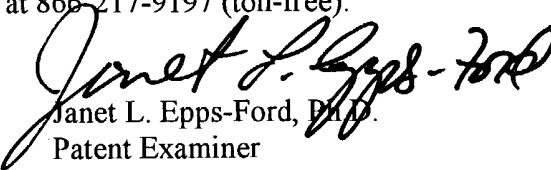
Conclusion

7. Claims 32-62 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janet L. Epps-Ford, Ph.D. whose telephone number is 571-272-0757. The examiner can normally be reached on Monday-Saturday, Flex Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John L. LeGuyader can be reached on 571-272-0760. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Janet L. Epps-Ford, Ph.D.
Patent Examiner
Art Unit 1635

JLE